

What is claimed is:

1. An actuator comprising:

a focusing-substrate having a focusing coil pattern for generating focusing driving force, the focusing-substrate
5 being provided with a land part and a hole through which laser beams pass;

an object lens for transmitting the laser beams;

a blade for holding the object lens, the focusing substrate being fixed on a bottom of the blade;

10 wire attaching parts formed on opposite sides of the blade and connected to the land part;

a PCB for applying external current to the focusing coil pattern;

15 wires having first end fixed on the wire attaching parts and second ends fixed on the PCB;

tracking coils for generating tracking driving force by receiving current from the PCB, the tracking coils being wound around opposite sides of the focusing substrate in parallel with the a wire direction;

20 magnets for providing magnetic force to the focusing coil pattern and the tracking coils; and

a yoke plate provided with a pair of first yokes for fixing the magnets and a second yoke for fixing the PCB.

2. The actuator of claim 1, wherein the focusing coil
25 pattern is formed of a coil patterned in a spiral shape on the focusing-substrate.

3. The actuator of claim 2, wherein the focusing coil pattern is formed in a multiple step.

4. The actuator of claim 1, wherein the focusing coil
30 pattern is formed of first and second coils that are

patterned in a spiral shape on the focusing-substrate at both sides of the hole.

5. The actuator of claim 4, wherein the focusing coil pattern is formed in a multiple step.

5 6. An actuator comprising:

a focusing-substrate having a focusing coil pattern for generating focusing driving force, the focusing-substrate being provided with a land part and a hole through which laser beams pass;

10 an object lens for transmitting the laser beams;

a blade for holding the object lens, the focusing substrate being fixed on a bottom of the blade;

wire attaching parts formed on opposite sides of the blade and connected to the land part;

15 a PCB for applying external current to the focusing coil pattern;

wires having first end fixed on the wire attaching parts and second ends fixed on the PCB;

20 tracking coils for generating tracking driving force by receiving current from the PCB, the tracking coils being formed on outer circumferences of the blade and the focusing-substrate;

magnets for providing magnetic force to the focusing coil pattern and the tracking coils; and

25 a yoke plate provided with a pair of outer yokes for fixing the magnets and a second yoke for fixing the PCB.

7. The actuator of claim 6, wherein the focusing coil pattern is formed of a coil patterned in a spiral shape on the focusing-substrate.

30 8. The actuator of claim 7, wherein the focusing coil pattern is formed in a multiple step.

9. The actuator of claim 6, wherein the focusing coil pattern is formed of first and second coils that are patterned in a spiral shape on the focusing-substrate at both sides of the hole.

5 10. The actuator of claim 9, wherein the focusing coil pattern is formed in a multiple step.

11. The actuator of claim 6, wherein the yoke plate is further provided with a pair of inner yokes between the outer yokes and the focusing-substrate is provided with
10 holes through which the inner yokes can be projected.

12. The actuator of claim 11, wherein the focusing coil pattern is formed of a coil patterned in a spiral shape on the focusing-substrate.

13. The actuator of claim 12, wherein the focusing
15 coil pattern is formed in a multiple step.

14. The actuator of claim 11, wherein the focusing coil pattern is formed of first and second coils that are patterned in a spiral shape on the focusing-substrate at both sides of the hole.

20 15. The actuator of claim 14, wherein the focusing coil pattern is formed in a multiple step.

16. An actuator comprising:

a focusing-substrate having a focusing coil pattern for generating focusing driving force, the focusing-substrate
25 being provided with a land part, a hole through which laser beams pass, first and second right hook grooves, first and second middle hook grooves, and first and second left hook grooves;

an object lens for transmitting the laser beams;

a blade for holding the object lens, the focusing substrate being fixed on a bottom of the blade;

wire attaching parts formed on opposite sides of the blade and connected to the land part;

5 a PCB for applying external current to the focusing coil pattern;

wires having first end fixed on the wire attaching parts and second ends fixed on the PCB;

10 tracking coils for generating tracking driving force by receiving current from the PCB, the tracking coils being wound around first, second, third and fourth portions of the focusing-substrate that are defined between the left, middle and right hook portions;

15 magnets for providing magnetic force to the focusing coil pattern and the tracking coils; and

a yoke plate provided with a pair of first yokes for fixing the magnets and a second yoke for fixing the PCB.

17. The actuator of claim 16, wherein the tracking coils comprise:

20 a first tracking coil wound around the first portion defined between the first middle hook groove and the first right hook groove;

25 a second tracking coil wound around the second portion defined between the first middle hook groove and the first left hook groove;

a third tracking coil wound around the third portion defined between the second middle hook portion and the second left hook groove; and

30 a fourth tracking coil wound around the fourth portion defined between second middle hook portion and the second right hook portion.

18. The actuator of claim 17, wherein the focusing coil pattern is formed of a coil patterned in a spiral shape on the focusing-substrate.

19. The actuator of claim 18, wherein the focusing
5 coil pattern is formed in a multiple step.

20. The actuator of claim 17, wherein the focusing coil pattern is formed of first and second coils that are patterned in a spiral shape on the focusing-substrate at both sides of the hole.

10 21. The actuator of claim 20, wherein the focusing coil pattern is formed in a multiple step.

22. The actuator of claim 16, wherein the focusing coil pattern is formed of a coil patterned in a spiral shape on the focusing-substrate.

15 23. The actuator of claim 22, wherein the focusing coil pattern is formed in a multiple step.

24. The actuator of claim 16, wherein the focusing coil pattern is formed of first and second coils that are patterned in a spiral shape on the focusing-substrate at
20 both sides of the hole.

25. The actuator of claim 24, wherein the focusing coil pattern is formed in a multiple step.